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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/522,490

01/26/2005

John Cook

05-081

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20306

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11/29/2007

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EXAMINER

CHAMBERS, TROY

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/522,490	<b>Applicant(s)</b> COOK ET AL.	
	<b>Examiner</b> Troy Chambers	<b>Art Unit</b> 3641	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,5-8,12,17,37 and 50-65 is/are pending in the application.  
     4a) Of the above claim(s) 17 and 62-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5, 12, 37, 50, 52, 53, 54, 56-61 is/are rejected.
- 7) ☒ Claim(s) 6-8,51 and 55 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

1. The subject matter directed to Figures 5-9 do not enjoy the benefit of the filing of foreign application GB0218598.1. This application does not disclose any of Figures 5-9 or second inventor Lakshman Chandrasekaran. Therefore, the earliest priority date for said subject matter would be 07 August 2003.

### ***Election/Restrictions***

2. Newly submitted claims 17 and 62-65 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Original claim 1 does not require the step of arranging for an internal heater nor subjecting the alloy to a combination of mechanical and thermal treatments.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17 and 62 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

3. Applicant's election with traverse of Group I, Species D in the reply filed on 05/04/2007 is acknowledged. The traversal is on the ground(s) that the various claims form a single inventive concept. This is not found persuasive because there is a lack of a single inventive concept as shown in the paragraph above.

The requirement is still deemed proper and is therefore made FINAL.

***Drawings***

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, cutting means (claims 6-8, 51) and the heater (claim 52) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Interpretation***

5. In claim 1, the phrase “which has been subjected to a combination of mechanical and thermal treatments” is not given patentable weight since the manner of making the device does not serve to patentably distinguish over the prior art.

6. In claim 1, the phrase “upon subsequent heating to a predetermined temperature, said annulus will contract radially inward and rupture the said munitions casing” is not given patentable weight since it is directed to intended use, namely, the subsequent heating of the annulus and rupturing of the munitions casing.

7. In claim 4, the recited subject matter is not given patentable weight since it is directed to the manner in which the device is made.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 5, 12, 37, 52-54 and 56-61 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6019025 issued to St. Amand. St. Amand discloses a shape memory alloy (SMA) sealing system for a Tomahawk missile capsule. As shown in Figs. 3A and 3B, the missile 16 has an SMA annulus 26, a ring member 24, and electrical heater 28 located within a slot 14. The SMA is made of nickel-titanium (col. 5, ll. 4-6). The manner of operation is disclosed at column 5, lines 22-27.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over St. Amand.

13. With respect to claim 37, St. Amand does not disclose the plurality of windings. However, at the time of the invention, one having ordinary skill in the art would have found the use of a plurality of windings as being obvious since it has been held that the mere duplication of parts has no patentable significance and a matter of design choice unless unexpected results are achieved. In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

***Allowable Subject Matter***

14. Claims 6-8, 51 and 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

15. Applicant's arguments filed 11/12/2007 have been fully considered but they are not persuasive.

16. Applicant argues that the shape memory alloy band of St. Amand has no interaction with a munitions casing. However, the claims do not recite "an interaction with a munitions casing." Moreover, applicant's use of the transitional "comprising" does not preclude the existence of other elements between the SMA band and the munitions casing. With respect to claim 15, applicant argues, "a plurality of windings is not a plurality of annuli." It is not known what this statement means since the examiner did not use it in the rejection.

***Conclusion***

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is 571-272-6874 and whose email address is [troy.chambers@uspto.gov](mailto:troy.chambers@uspto.gov). The examiner can normally be reached on M-F from 8 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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/Troy Chambers/  
Primary Examiner  
Art Unit 3641

/T. C./

11/28/2007